



THOMAS G. NEWMAN, Editor.

Vol. XXIII. Dec. 21, 1887. No. 51.

Merry Christmas now is here,
Brightest time of all the year;
Gentle words and greetings gay,
From friend to friend on Christmas day.

Twine the laurel and the bay,
With the holly-berries gay;
Deck the walls with garlands bright,
On merry, merry Christmas night.
—Vick's Monthly.

Christmas will have come by the time this number of the AMERICAN BEE JOURNAL reaches its readers. No holiday is more welcome than this. It is ushered in with pleasant gifts of friendship, and ends in the pronouncement of blessings on all. Its observance for so many hundreds of years has given it a character which appeals to all to promote the joy and happiness of kindred and friends. Christmas-trees, and Christmas greetings are the order of the day. Let no selfish thought be connected with this grand day; let it be universally bright and beautiful, that all hearts may rejoice and be glad! A MERRY CHRISTMAS FOR ALL.

A Modern Bee-Farm and its Economic Management. Showing how bees may be cultivated as a means of livelihood; as a health-giving pursuit; and as a source of recreation to the busy man. Profits made certain by growing crops yielding the most honey, having also other uses; and by judgment in breeding a good working strain of bees. By S. Simmins, Rottingdean, Brighton, England.

This is the title of a new book just published of about 200 pages. It is printed on excellent paper, and is nicely bound in cloth. Price \$1.00. It covers the whole field of apiculture, and is written in a terse and interesting manner. It can be obtained at this office.

Wide-Awake—1888.—The new year has already begun with the holiday number just out—a truly great number, larger and richer, more varied, and better than ever before.

We know of no Christmas gift so sure of bringing a happy response in a reading family. Send \$2.40 to D. Lothrop Company, Boston.

Poisoning the Bees.—Of all the diabolical plots and conspiracies hatched by the enemies of the honey-bees, the most dispicable is that of feeding them on honey "loaded to kill" with poison.

A copy of the "Messenger," a little local sheet published at Atlantic, Iowa, was sent to us, which contained an article advising this method of treatment for in-offensive bees. The writer says:

This part of Iowa is rapidly coming to the front as a grape-raising country, and it behooves those interested in the matter to consider and decide upon some means by which the grapes may be protected from the ravages of bees.

The grape-raising industry has been almost entirely killed in Ohio by this nuisance. Last summer the papers gave accounts of the complete devastation of entire districts in Illinois, and now we hear complaints on every hand of the destruction wrought by the pests, in this State and county.

The writer hereof, has had the entire products for two years of fifty vines taken by the bees, which, as soon as a grape ripens, pierce the skin, suck out a little of the juice, and leave the grape to rot. Now, inasmuch as the grapes are worth a great deal more than the bees, some means must be devised for putting a stop to the present state of affairs.

I have thought of many plans—only one of which seems feasible, and that is, to place near the vines just before the grapes are ripe, dishes containing honey well dosed with some active poison, something that will kill them before they can reach their hives. Can any one suggest a better plan? In some States laws are enacted prohibiting the keeping of bees in grape districts, but as we have no such laws here, we must devise means for our own protection.

In the second paragraph this ignorant "ranter" asserts that "the grape-raising industry has been almost entirely killed out in Ohio, by this nuisance." All of which we deny. It is a malicious falsehood, and the author of it was either ludicrously ignorant, or he is a willfully malicious slanderer!

The paper which has published such a vile defamation would indeed be a "MESSENGER of death" if its advice should be carried out. We do not think that there are many who would listen to such dastardly mean advice! Suppose these bees should get a small quantity of it, reach their home, and then get it mixed with some honey, would not the instigator of this plot be held liable for any damage done to humanity as a result of eating this poisoned honey?

The "Messenger" should be a little careful of letting such vindictive scribblers take possession of its columns. The public will undoubtedly hold it responsible for any calamity that may follow in that line of "bomb-throwing."

Queries are again crowded out of this issue, by a PRESS of other matter.

Sample Copies.—Do not send to us for sample copies of any other papers. Send for such to the publishers of the papers you want.

To be Frank with a young Benedict let us say that Mr. Frank G. Hopkins, Jr., of St. Joseph, Mo., is a trifle sly and secretive, not to have informed us of the nearness of a great event, when we were riding around the city of St. Joseph last fall together. But we will forgive him this time, now that he has been so fortunate as to secure such a charming life-partner as Miss Augusta Keller.

Among the long list of wedding presents in the "Herald" we notice that of a complete outfit of household furniture from his father, Capt. Hopkins. The "Herald" says:

They will be at "home" to their friends at Woodland farm and apiary, just north of the city limits, on the road to the water works, where the young Benedict will devote his attention to scientific bee-culture and the raising of blooded stock, for which avocations he has a natural fondness and much experience.

"Frank" is one of the most genial and companionable young men we ever met—to us he was indeed "charming," a progressive apiarist, and fancier of live stock, of correct business habits, and possessing bright conversational powers.

We wish Mr. and Mrs. Hopkins much pleasure and prosperity. May the "apiary" at Woodland produce much "honey"—not only by the bees in the swarming season, but every month in the year by the young couple of cooling-doves.

Tin is Quite Necessary for bee-keepers, but the prospect is that there will be a large advance in prices. Here is what the daily papers say of it:

The excitement in the New York metal exchange over the recent advance in copper and tin is unabated, and developments are awaited with great anxiety by leading operators. The speculative interest is keenest among dealers in copper. The bulls declare that the supply of the metal is daily decreasing in proportion to the demand, and predict a continued rise in its price. There are some fears that the fruit and vegetable canning industry will receive a check next season owing to the difficulty in obtaining tin-plate for the manufacture of cans. Scarcity of tin has created a "corner" in that article. Want of "tin" heretofore has burst other "corners."

Those who can do so will exhibit shrewd business qualities by buying AT ONCE any extractors, tin pails, and such tin goods as they may soon need—before the rise in prices.

Heads and Faces, and How to Study Them; a manual of phrenology and physiognomy, by Prof. Nelson Sizer, phrenological examiner, and Dr. H. S. Drayton, editor of the "Phrenological Journal." This book of 300 pages is on our desk; it is profusely illustrated, and can be obtained of the publishers, Fowler & Wells Co., 775 Broadway, N. Y., for \$1 in cloth binding, or 40 cents in paper covers.

Correspondence.

This mark \odot indicates that the apiarist is located near the center of the State named; δ north of the center; φ south; \oplus east; \ominus west; and this \nwarrow northeast; \swarrow southwest of the center of the State mentioned.

For the American Bee Journal.

A Plea for Large Frames.

J. M. HAMBAUGH.

It seems to me that the most important feature of bee-culture is either ignored or carelessly overlooked, in the bee-lore of our best modern apicultural writers. It is a fact that none will dispute, that we measure our harvest by the strength of our colonies numerically; and to achieve the best results in this direction should be the guiding-star of the apiarist, and the brood-chamber should be constructed in accordance with the natural laws governing the household economy of the honey-bee.

Let us take a peep at the bee in its natural habitation, where they become their own architects in the construction of their own combs, and what do we find? I have transferred hundreds of colonies, in all kinds of hives, nail-kegs, log-hives, box-hives, and from bee-trees in the woods, and the same principle that governs one governs all, in the main, and that is, large, deep, roomy combs, with stores above, brood beneath, and combs spaced from $1\frac{1}{2}$ to 2 inches from centre to centre. In the early part of the season sealed brood can be found in the centre of the combs, next to which can be found larvae in all stages, and on the outside of all, eggs; showing conclusively that the queen first commenced her laying near the centre of the comb, and like a spider spinning her web, she plies her vocation from centre to circumference—Nature's most economical method of time-saving to the queen in her vocation of reproduction.

We should imitate nature in the construction of our hives, especially in that of the brood-chamber, that we may bring about the greatest strength possible, numerically, from the prolificness of the queens. To accomplish this, I contend that the most essential point in apiculture is, our combs should be so arranged that not one second of time need be lost by the queen in her onward march from cell to cell, depositing in the height of her fecundity about two eggs per minute, or nearly 3,000 eggs in 24 hours. In order to do this, she should not be confronted with horizontal bars and bee-spaces in the centre of her brood-nest, as they are certainly a great barrier against her fecundity, being contrary to the laws of her natural domain. Being thrown out of her natural circuitous orbit, she loses time in passing over bars and bee-spaces, and shifting from side to side, thus losing the benefits

of the queen's functions, which means a serious detriment to the strength of the colony.

Mr. Heddon has the lasting gratitude of the apicultural world for his many discoveries and substantial inventions, and we certainly have no desire to rob him of his justly earned fame; but we do take issue against a shallow sectional brood-chamber, for reasons heretofore mentioned, and sincerely believe that had he exercised his ingenuity and inventive powers on a hive with combs of larger dimensions, he would have come nearer "the hive" that will come to stay, and would have opened a new era, far in advance of that realized by his present device.

My argument is not altogether from the reasoning of Mr. H's departure from the theory governing their household economy, but years of practical experience with small and large hives has confirmed my statements in every particular, as regards the superiority of large combs over small ones, for obtaining strong colonies.

Let those who doubt my statement try an equal number of colonies with queens of equal fertility, and report. It is said that "the proof of the pudding is in the eating thereof," and if Messrs. Heddon, Hutchinson and others can give reports of larger yields of honey from the sectional brood-chamber hives, than can be given from hives of large, roomy combs, I will have to acknowledge the fallacy of this article. I wish to get at facts, and if "the new must give way to the old," and the time is near at hand when "we will manipulate hives more and frames less," we wish to know by actual test the reasons, why's and wherefores.

Spring, O. Ills.

Glasgow, Scotland, Herald.

Bees and Bee-Keeping in Scotland.

THE PRACTICE OF YEARS AGO.

Of the various employments of an industrial character that in former times engaged the attention of tradesmen and laborers in many rural localities in Scotland, in addition to their stated avocations, that of bee-keeping was pretty widely followed. In many farm-places, and in every hamlet and village there might be seen, placed in the sunniest nooks and exposures of the gardens, bee-hives varying in number from three to forty or fifty. These formed quite as common features in the cottagers' "yards" as a drill of potatoes or a row of cabbage. In addition to the common cottager, nearly every village blacksmith, joiner, shoemaker, tailor, and weaver was an apiarist. Attention to their bees occupied their odd times, at certain seasons requiring more time, which was ungrudgingly given by the tradesmen portion of them.

Whilst this work was a pleasure it was also a source of profit, forming a much-needed addition to their scanty

incomes. From £8 to £15 in many cases were realized. In the case of those who kept a greater number of colonies (of which there were a few), the return of course was greater. For the districts within moderate reach, Edinburgh and Glasgow were the principal marts for the sale of the honey, which was conveyed thither by the village carrier. The apiarists, if they belonged to the tradesmen class, usually accompanied their goods (getting a "cast on the way" from the carrier) in order to negotiate the sale with the city merchants. This was an important transaction, and when they got a good price they returned home in high spirits with the results of their honey season.

The system of bee-culture, however, then followed was not fitted to produce the largest harvest. The plan of swarming then in vogue reduced the strength of the parent colonies, producing a number of weak colonies, which, in many cases, stored just as much honey as sufficed to keep them throughout the winter. The cruel practice of "brimstone smoking," by which bees were sacrificed, was simply a destruction of honey-producing power. The system required good, genial summers to secure moderate profits. So long as the warm summers of former years continued, bee-culture was so far a fair success, but with the change into cloudier and colder summers of succeeding years, the honey harvest greatly decreased. Many colonies died out, leading in the great majority of cases to the giving up of bee-cultivation by the ordinary cottager.

The modern system of bee-culture—the "depriving system" and bar-frame hive, by giving additional storage-room, preventing swarming, thereby strengthening colonies—has wrought quite a change in the plan formerly pursued, resulting in the production of a larger yield and better quality, thus opening up the way for the return of more than the former prosperity.

Under the old system the idea of giving additional storage-room was given effect to only occasionally, and in the case of exceptionally good colonies. The much greater results from this new system are full of hope and encouragement to the cottager-class of apiarists and others, already noticed as having been in former days so numerous, to their resuming the cultivation of this branch of industry with greater certainty of success.

For the American Bee Journal.

Ordinary Business Sagacity.

M. M. BALDRIDGE.

This year there is no surplus honey worth mentioning in northern Illinois. The Oatman Brothers have about 700 colonies of bees, and have been obliged to feed them, more or less, all through the past season. Last year they had, so report says, about 40,000 pounds of honey, all in the square one-pound sections. Report also says

that they made one sale of honey last year of \$5,000 worth, spot cash, at their depot. They sold early, and by so doing, they made for once a lucky hit.

All of their bee-operations are kept exceedingly quiet, having learned that it does not pay to do otherwise. They never brag at bee-conventions for the public eye, nor among their non-honey-producing neighbors, or elsewhere when harm might ensue, about their big crops of honey; nor how little the honey costs them; nor how soon they expect to become millionaires!

There are a few honey-producers in the United States, and they sometimes attend bee-conventions, who might be profited by following the common-sense example of the Oatman Brothers. But will they do it? Please keep an eye upon them in the future and see!

St. Charles, 3 Ills.

Iowa Homestead.

Do Bees select a home before Swarming?

SOME INTERESTING FACTS.

We have always regarded the statement frequently made, that before leaving the apiary, if not before leaving the hive, bees have a new home selected if not fitted up, as a tradition that might, and again might not have a basis of fact. We had an opportunity last week to see for ourselves; or rather, to get our information from first hands, and under circumstances that left no opportunity for mistake.

On Sunday Mr. Vance, the manager of our creamery farm, discovered bees clustered under the window sill of his bed-room. There were but few of them; probably half a pint, and they seemed to go in and out of a very small crevice where the weatherboarding had shrunk from the sill.

He concluded this must be the traditional committee of investigation, appointed by whatever power rules in the bee-hive, to find out whatever good lay before them, and report.

The committee stayed all Sunday forenoon, and spent the night and the next forenoon. The bees were Italians of a brighter and better color than any in our apiary, and hence were clearly strangers. The next afternoon, while Mr. V. happened to be watching them, a large swarm of bees of the same color came in from the northwest and immediately began to cluster and enter the aperture in the siding. By prompt and efficient use of the smoker, they were driven out, the hole closed and the bees clustered on a tree and hived. We know of no bees of the quality nearer than nine miles to the northwest.

This seems to us a demonstration that bees select their home. This committee had evidently reported a land of promise near the Alsike, white clover, and linden, and had sent back a good report of the land as well as guides to bring on the colony.

There seems to have been some misunderstanding, however, as about

the same number of bees remained clustered on the spot after the swarm was hived, and remained there till Thursday, evidently supporting themselves by foraging in the fields till we took pity on them and allowed them to go to their chosen home.

The same day another investigating committee selected a similar place in a neighbor's house, and the next day one of his neighbor's had a swarm of bees come off and leave. He followed them directly to the spot where the committee had all things in readiness.

What now is the governing, supreme power in the bee-hive? It is certainly not the queen. She is, simply the mother bee, and at the time the swarm leaves the hive, may be but an infant of a day. Nor is it the drones, who are born to serve a brief purpose and then murdered.

In the case mentioned there is a search for a location, the communication of intelligence to the parent colony, and uniformity of action on the part of the swarm. Now, who appoints this committee, and in what way is their report received and unanimously adopted and acted upon?

For the American Bee Journal.

The Michigan Bee-Keepers' Convention.

W. Z. HUTCHINSON.

The Michigan State Bee-Keepers' Association held its annual meeting on Dec. 7 and 8, 1887, at East Saginaw, Mich. The bee-keepers did not commence their convention until the afternoon of Dec. 7, and the first session was a joint one with the horticulturists, who began their meeting the day previous. The local bee-keepers had done everything possible to make it pleasant for the visitors. Back of the speaker's stand appeared the words, "Welcome Bee-Keepers," the letters being formed by an arrangement of cakes of bright yellow wax upon a back-ground of gilt and silver paper. This was the work of Mr. John Rey. The Mayor of East Saginaw welcomed the two societies to the city, which brought a prompt response from T. T. Lyon, President of the Horticultural Society.

The convention then proceeded to discuss the following subject:

Do Bees Injure Maturing Fruit?

Prof. A. J. Cook—I do not believe that the bees ever injure sound fruit. They are never attracted to anything that is entirely closed up. A sound grape is sealed up, and the odor cannot escape. When bees attack grapes it is all at once; they cannot commence gradually. When they begin work it is after a warm and sultry time, and the grapes are over-ripe, and the skins crack. I would not state positively that bees CANNOT cut open the skin of a sound grape; but it is contrary to their instinct. I have placed the tender varieties of grapes where the bees could get them in a time of drouth, and they never touched them. If some of the grapes were pricked, the bees soon cleaned

them out, but left the sound ones untouched. I have put the grapes into the hives, and the bees did not open them. I would like to know if any one present, who raises grapes, has been annoyed by bees?

L. A. Pearce—The bees cause annoyance in my vineyard perhaps three years out of five. I may say that they are not always an annoyance. Some years the birds attack the grapes, and set the juice to running, and then the bees would suck the skins dry; but this has been a help, as it enables us to pick out the skins and sell the sound grapes, which could not be done were not the juice cleaned off the sound grapes. The bees never touch sound grapes, and cracked fruit is of no market value.

A. G. Gulley—We have found it difficult to pick grapes because the bees are so thick. The Delawares are taken first. The bees will also eat peaches; it may be they were first attacked by the curculio.

Dr. L. C. Whiting—We often think that the grapes are not cracked, when they really are; where the grapes touch each other there is often a crack that we do not notice.

A. I. Root—I have raised grapes (Concords) for shade over my hives, and, as the bees have not molested them upon the vines, we have often used this as an argument to prove that the bees do not injure grapes; but as soon as I began selling grapes, picking them off and putting them into baskets, and putting them into the market wagon, then bees were quite annoying. I presume that the picking and handling bruised and cracked some of the grapes, and thus started the bees. As soon as the grapes are picked, we are obliged to put them in the cellar until I am ready to deliver them. The bees have not yet learned to follow the wagon, but they are always ready to meet it upon its return, and lick all the juice from the baskets.

J. H. Robertson—I have a neighbor who has two Delaware vines, and the bees strip them of grapes. We covered two bunches to keep the bees away, and upon examination we found many of the grapes cracked. As soon as uncovered, the bees completely cleaned them up. The grapes were very ripe, and could not be handled without cracking them.

Secretary Garfield—The Secretary of the Eaton County Horticultural Society, said to me: "Charles Garfield, there is no use of talking, the bees do open grapes; I have seen them do it. There was no crack nor anything of the kind; the bee just put his jaws down on the grape and wiggled his nose back and forth, until he wiggled a hole right through the skin of the grape."

L. A. Pearce—I do not believe it. (Laughter.) I had some apples that the birds picked into, and the bees followed and sucked the juice. Near the trees were grapes, and the birds picked open many of the grapes. The bees followed here, and sucked the skins dry. They did not molest the sound grapes. Now, if they could

open the grapes, why didn't they? Some have said that bees will carry the yellows from one peach tree to another. I do not believe this, either. If they did, all the peach trees would be dead in about one year.

A. I. Root—A man living in Medina, Ohio, owned a cider-mill, and the bees annoyed him; but we offered to cover the doors and windows with netting. The mill was so old and full of cracks that it did no good, and we finally offered to build a new mill. This shamed him, and he finally went at it and fixed it himself.

A. M. Gander—What is the size and shape of the opening made by a bee when it opens a grape?

H. D. Cutting—Birds take away about one-third of the grape; wasps make a slit; I cannot say as to bees.

R. L. Taylor—One trouble is, that our neighbors do not understand the nature of bees. We know how to manage so that no trouble arises. I have a neighbor who has a piece of land near my apiary. If he should attempt to work it at some times he would be severely stung. I go and tell him just when he can work it, and how to manage not to be stung, and he has had no trouble. We should instruct our neighbors. If they raise grapes, we should tell them not to let the grapes become over-ripe or they will crack and the bees will eat them up; that it is better for them, and for us, to gather the grapes earlier.

J. H. Robertson—Bees are very useful for the fertilization of blossoms; were it not for their aid, fruit would be scarce. I think that we ought not to find so much fault with the bees for taking a little fruit.

This raised the following question:

How Great are the Benefits of Bees in Promoting the Setting of Fruits?

Prof. Cook—If the bees do not visit flowers, it is pretty good evidence that the bees are not needed. Of all the fruits, strawberries seem to need the bees the least. Strawberries have been covered sufficient to keep away the bees, and yet a good crop secured.

Geo. Peffer, of Wisconsin—If the weather is damp for a long time, bees are needed; if dry, the wind will carry the pollen.

W. R. Fellows—I was in Dakota, the last season, at a place where there are no bees; pumpkin and squash vines were growing luxuriantly, but there were no pumpkins nor squashes. I transferred some of the pollen artificially, and in this way pumpkins and squashes were secured.

The next topic was this:

How does Bee-Keeping Supplement Horticulture, Commercially?

T. F. Bingham—Farmers and horticulturists can produce honey as cheaply as any one. It may not be so nicely put up as that of Mr. Taylor's, or Mr. Heddon's, or some other specialist; but the ordinary public will buy it and eat it, and the honey will be just as good. A young farmer can

make bee-keeping more profitable than anything else on the farm.

R. L. Taylor—If the farmer finds bee-keeping the most profitable, he will drop farming for bee-keeping, and thus become a specialist.

E. J. Cook—I am engaged in general farming, and I find that, for the time and money expended, the bees pay me the best.

Dr. L. C. Whiting—The trouble with farmers and horticulturists keeping bees is, that the busy time comes at the same time with both pursuits. I remember riding past a farm about ten o'clock in the morning, when the farm bell began ringing. Just over the fence was a man cultivating corn. I said to him: "Don't you hear the dinner bell?" "Yes," he said, "I hear it. It is about those pesky bees; I've hived them three or four times this morning, and now they may go to —."

Just here the ladies were called upon, and invited to join in the discussion; and Mrs. Frank Wright read a short letter. She kept bees, not for the pleasure, but for the profit in them; still she did not make one-half as much as some bee-keepers asserted that they did. The trouble was, that she could not control the swarming of the bees; she had not the time necessary to give the bees the care they needed, and lastly, she did not understand marketing the honey so as to get the best prices.

Prof. Cook—If a man does fail, it is not all lost, because the added information broadens the man. Then again, can we not keep bees and not do so much labor in June? Mr. Green, at Chicago, gave us a point in this direction. And right here let me say something about Mr. Heddon. He has received one or two left-handed compliments upon this point, and now I wish to give him a right-handed one. I think he has done more than any other bee-keeper, not only in this country, but in the whole world, to simplify bee-keeping. I know this is strange language, but I believe it.

R. L. Taylor—We are wandering from the subject. The proposition is, that farmers can keep bees and make it profitable, and a few cases have been cited of farmers succeeding; and we have been told that we learn something even if we do fail. The question is not whether the farmers can learn something, but whether they can make it profitable? Dr. Whiting gave a fair illustration of the average farmer. In my own locality several persons have commenced bee-keeping and dropped it.

Wm. H. Barry—The question is, shall bee-keepers raise fruits (commercially), or shall horticulturists produce honey? I should like to raise fruit, but when fruit requires the most care, I am busy with my bees.

The convention then adjourned until 7:30 p.m.

EVENING SESSION.

The convention was called to order at 7:30 p.m., with President Hilton in the chair. The Secretary's report

was read and accepted. Then the following members paid their dues:

John Rey, East Saginaw, Mich.
Henry Jones, Chesaning, Mich.
I. S. Huckins, Bay City, Mich.
Joel Gulick, Nelson, Mich.
H. D. Cutting, Clinton, Mich.
A. J. Cook, Agricultural College, Mich.
O. J. Bedell, Kawkawlin, Mich.
R. L. Taylor, Lapeer, Mich.
Martin Gute, Owosso, Mich.
Sam. Willis, St. Charles, Mich.
W. B. Fellows, Jackson, Mich.
A. I. Root, Medina, O.
J. H. Robertson, Pewamo, Mich.
J. A. Pearce, Grand Rapids, Mich.
T. F. Bingham, Abnoria, Mich.
Dr. L. C. Whiting, East Saginaw, Mich.
W. D. Soper, Jackson, Mich.
E. J. Cook, Owosso, Mich.
Geo. W. Gillett, Hemlock City, Mich.
Wm. Spedding, Clifford, Mich.
Wm. H. Barry, Shelby, Mich.
A. M. Gander, Adrian, Mich.
J. B. Wilcox, Manistee, Mich.
W. M. Freeman, Flushing, Mich.
W. Z. Hutchinson, Flint, Mich.
Geo. W. Sortes, Kingston, Mich.
Geo. E. Hilton, Fremont, Mich.

The following lady members were enrolled:

Mrs. Reinhard, East Saginaw, Mich.
Mrs. Myra L. Parsons, Linwood, Mich.
Mrs. Frank Wright, Otter Lake, Mich.
Mrs. I. S. Huckins, Bay City, Mich.
Mrs. John Rey, East Saginaw, Mich.
Mrs. O. J. Bedell, Kawkawlin, Mich.
Mrs. R. L. Taylor, Lapeer, Mich.
Miss Lucy A. Wilkins, Farwell, Mich.

The convention next listened to

The President's Address.

We have assembled here with our friends, the horticulturists, at our 21st annual convention, to consider that which pertains to the best interests of our pursuit. I shall not occupy your time with an exhaustive address, for the programme is very complete, and our time is short at best to consider the important subjects which will be presented.

I am here as a member of this society to assist as best I may in throwing light on the topics brought before us. I take it as an expression of good-will and great generosity in those who have arranged the preliminaries of these meetings, that everything for the comfort of us all has been so amply provided, and that all arrangements are so thorough and complete; let us see to it that we endeavor to perform our part in as faithful a manner as our committee have done.

It is with pleasure and pride that I congratulate this Society on attaining its majority, and while the last year of our second decade has been discouraging from one point of view, from another, we start on our third with most flattering prospects. The dearth of honey has not only established paying prices, but has sounded the death-knell of the "Wiley lie," and all advocates of "manufactured honey," and to me the prospects were never brighter.

Yes, we have reached a crisis in the history of bee-keeping which must be acknowledged to be of national importance. The question no longer remains, "Shall we commence," or "Shall those of us who are already engaged in it continue?" I now say, without fear of successful contradic-

tion, that the possibilities in bee-keeping have not yet been reached.

Need I say less of horticulture? In the words of Mr. Eugene Secor, of Forest City, Iowa, I would say: "The true horticulturist, like the successful bee-keeper, is an enthusiast. I need not remind any one who plants trees and grows fruits, of the genuine pleasure that thrills the soul when nature responds to his intelligence, thought and careful direction? He lives in a world of his own. He needs no other intoxicant to complete his happiness. Horticulture is one of the fine arts; it requires the skill of a master. It is just as impossible for the thoughtless, brainless clod-hopper to reach the highest round in the ladder in propagating fruit, as it is for him to appreciate it after it is grown. But after all man's skill in planting, after ransacking the earth for improved varieties, after propagating, grafting and hybridizing, he must rely mainly upon Nature's methods of fructification. The favoring winds and industrious bees are needed to fertilize the bloom to insure a harvest of fruit. As a means of accomplishing this end, there is no question but that the bee is of great service to the grower of fruits; no other insect is multiplied in such vast numbers so early in the spring when their agency is so much needed to fertilize the orchards and small fruits.

"If the winds were the only means of carrying the pollen from flower to flower, how often would perfect fertilization fail from too much or too little wind during the brief opportunity when the bursting buds are sighing for the life-giving dust from the neighboring flowers.

"Not only is honey provided in the delicate chalices to entice them, but the pollen so essential to the plant (and just as essential to the bee in furnishing the proper food for its young), is placed in close proximity to the nectar, so that in getting either, the bee is unwittingly carrying the dust from flower to flower, or working out the wise plans of Providence as relates to plants, and catering to man's pleasurable taste at the same time. The drop of honey is placed then in the flower not because it is needed to perfect the flower or fruit, but to tempt the bee to brush its hairy legs against anthers, and distribute the golden dust. So the bee introduces itself at once to the horticulturist as his friend. The latter ought to meet it half way and acknowledge its two-fold service. It does him a service while on its daily rounds in search of food for itself and young, and again by storing up for his benefit the liquid sweets which it does not need itself, and which ungathered vanish like the morning dew, like the manna which the Israelites ate of—the ungathered portions melted 'when the sun waxed hot.'

"What, then, is there to hinder these two vocations from going hand in hand, since each is helpful to the other? They ought at least to be on friendly terms. Each furnishes inducements for the other to exist.

"But, aside from these considerations of the healthful diversions and pleasing variety of mind, and returning again to the utilitarian side of the question, the horticulturist will find it profitable to pursue the study and practice of this delightful branch of entomology. The habits and instincts of this 'pattern of industry' are ever interesting, and the business quite as remunerative as raising tender fruits in an 'iron-clad climate.' This pursuit, once entered upon, possesses charms of its own. No other stimulus is needed to follow it than the fascination of its own creations.

"A great deal has been said about bees injuring fruit—some fruit-growers having charged that they puncture the ripe grapes, suck the juice and destroy the crop. But from the physical structure of the bee this is said to be impossible by scientific entomologists. It has no jaws like the hornet; it is made to suck, not to bite; and on close observation, and after repeated experiments, it has been found that where bees are discovered helping themselves to ripe fruit, that the skins had been ruptured by the weather or from over-ripeness, or that hornets or wasps, or birds, had first been the depredators. After the skin has been broken from any cause, if there is a scarcity of honey, the bees, always anxious to be doing something, will endeavor to get a share of the plunder. Therefore, as to bees injuring fruit, I, as their attorney, shall claim to the jury that the charge is not proven.

"In dismissing this subject, which to the lover of fruits, flowers and bees is always a source of infinite delight, I cannot refrain from quoting a few lines from 'The Planting of the Apple Tree,' by that venerable sylvan poet, our own Bryant, who saw so much of future hope and promise as he sifted the soft mould about its tiny rootlets:

What plant we in this apple tree?
Sweets for a hundred flowery springs
To load the May-winds' restless wings;
When from the orchard row he pours
Its fragrance at our open doors
A world of blossom for the bee."

GEO. E. HILTON.

R. L. Taylor—Now this gives Prof. Cook a chance to say a word that he is bursting to say.

Prof. Cook—In brief, I will say that bees are needed all over the country for the fertilization of blossoms; that the study of rural pursuits helps to make home pleasant, and binds together the family, and finally it may be made a source of profit. I may be mistaken, but I thoroughly believe in bee-keeping on the farm.

Excessive Swarming of Bees.

Mrs. Wright had had considerable trouble with excessive swarming, and wished to know how to avoid it.

Dr. L. C. Whiting—I have prevented it by extracting 4 or 5 pounds of honey from the brood-nest, thus giving the queen room to lay. I do this as often as necessary.

R. L. Taylor—I do not think that this plan will work generally. One

year I produced extracted honey, and the bees swarmed considerably. If we are to have any swarms, we may just as well have many as few. The object in preventing swarming is, that we may avoid having a man with the bees all of the time; and if part of the colonies are to swarm, they may as well all swarm. Another objection to the Doctor's plan is, that it involves too much labor. It is this kind of labor that makes cost in producing honey. Another season I shall try the following plan: Use a drone-trap to catch the queen, and return the swarm without the queen. Just before the young queens hatch, cut out all the cells but one.

Dr. Whiting—Now I am going to "pick a hole" in that. Your colony is without a laying queen for nearly three weeks, and the loss is equal to a swarm of bees.

R. L. Taylor—Now "I am going to pick a hole in that." In the first place there is not a loss equal to a swarm of bees, and in the next place, such a loss of bees would be an *advantage*. For a few days before a colony swarms, the queen reduces her egg-producing capacity, takes a rest, and becomes light so that she can fly. After the bees swarm it is several days before she resumes laying to any great extent; hence the loss in bees is not so great as might be supposed; and, furthermore, all bees produced that do not come upon the stage until the harvest is over, are produced at a loss.

The following committees were now appointed:

On Resolutions—R. L. Taylor, A. J. Cook, and W. Z. Hutchinson.

On Exhibits—J. A. Pearce, A. I. Root and J. H. Robertson.

The following is a copy of a letter read by President Hilton, being a reply to a letter addressed by him to the Commissioner of Agriculture, in regard to apicultural statistics, as suggested at the recent Chicago convention. The letter is as follows:

U.S. DEPARTMENT OF AGRICULTURE,
WASHINGTON, D. C., Nov. 26, 1887.

Geo. E. Hilton, Fremont, Mich.,
President of Michigan Bee-Keepers' Association.

SIR:—Your letter of the 21st inst., addressed to the Commissioner of Agriculture, has been referred to me for answer. Our monthly reports are made up from information gathered from a corps of crop correspondents in each agricultural county in the United States, and with such a wide range it is only practicable for us to report regularly upon the leading farm products. We frequently make outside investigations relative to the condition and extent of special rural industries, and realizing the importance of bee-keeping, would be glad to give it the attention it deserves. Our regular correspondents, however, are ordinary farmers, and but few would be able to give any information relative to the present condition of apiculture. It would be necessary to send directly to those interested in the industry. Can you furnish me,

or suggest where I might obtain, a list of bee-keepers, comprising one or two names in each county where the industry is of any prominence, and also give the points which, in your opinion, such an investigation should cover? Very respectfully,

J. R. DODGE, *Statistician.*

The convention then adjourned until 9 a.m. on Thursday.

THE SECOND DAY.

The convention was called to order by President Hilton at 9 a.m.

From the Question-Box was taken the following: "How shall spring dwindling be prevented where the wind blows in from the lake over a bank of ice?"

J. H. Robertson—Move to some other locality.

R. L. Taylor—I do not think that spring dwindling is the result of cold weather in the spring, but of imperfect wintering.

Shade for the Bees.

Prof. Cook—I would advise the use of a shade-board everytime; and I say this after having tried about everything that has been recommended. I would like a high trimmed grove for comfort.

John Rey—Sunflowers.

R. L. Taylor—Shade-boards.

President Hilton—How about the swarms clustering in high trees?

Prof. Cook—If the queens' wings are clipped, as they *ought* to be, there will be no objection to the bees clustering where they please.

President Hilton—I tried grapevines for shade, and they proved a nuisance. In this latitude it is doubtful if shade is needed.

David Shangle—When I began keeping bees, some of my hives were painted dark, and others white. The combs melted down in some of the dark ones, but never in the white ones. I have painted the dark ones white, and I do not use shade, and I do not think that it is necessary.

J. H. Robertson—My yard is all shaded by high trees, and I like a good shade.

R. L. Taylor—There are only a few days in the summer when shade is needed, and when it is needed, I know of nothing better than a shade-board.

W. Z. Hutchinson—Who can say from experience that more or less honey will be secured by shading the hives?

R. L. Taylor—This is a pretty fine point. If one-half of the hives were shaded, the bees might suffer for want of the sunshine at some particular time, and those without shade suffer from the sunshine at some other time; and thus each half of the apiary store an equal amount of honey. As I have already said, shade is needed only a few days, and even then the only trouble is that the bees are driven out of the supers.

T. F. Bingham—I do not shade my hives, and I have never had a comb melted down. The entrances extend the whole length of the hive—22 inches.

Mr. R. L. Taylor, of Lapeer, Mich., then read an essay, entitled,

Comb Honey vs. Extracted Honey.

The advantages to the apiarist of producing either kind of honey, rather than the other, depends upon his tastes and circumstances. Our choice in all the ordinary, not to say the most momentous things in life, is controlled largely by our tastes; and this controlling influence will generally be felt when we come to decide whether we shall make it our business to produce comb honey or extracted honey, and it is highly proper that this should be so.

Every one does that best which he likes best. I like best the production of comb honey, and my mind involuntarily pictures to itself superior neatness and comfort, and greater ease and more equitable division of the labor of the season among the days, as appertaining to this branch; but while I continue to like this best, I must confess that when I sit down and listen calmly to reason, it is difficult to find any great difference in these respects. So there is no accounting for tastes; nevertheless they should be consulted, for though they cannot be voluntarily created, yet they are largely formed in response to the necessities of existing conditions; and it is these conditions which in the absence of a decided bias must be consulted in order to determine whether it is better for any particular individual to devote his apiary to the production of comb honey or of extracted honey.

Now what these conditions are, it is of interest to all apiarists to know; and as I view it, the chief among them are the following, namely: Existing appliances, the quality of the honey produced, the season when it is obtained, and the character of the home market.

Of course, if an apiarist is supplied with the appliances necessary for the advantageous production, and the care of comb honey, he should be very slow to incur the expense incident to a complete change of these for those adapted to the production of extracted honey, and *vice versa*.

Secondly, choice in the matter should often be influenced by the quality of the honey produced. It is seldom best to undertake the production of comb honey unless it is to be white and of good quality. Dark comb honey is almost always a drug in the market, and sells generally at a very low price—so low that when the increased amount of extracted honey that can be produced, is taken into account, the latter will be found to bring easily the more money.

Next, it is to be remembered that in the early months of the season the bees produce wax freely, and work it readily, while later in the season they are rather slow to do either; and the resulting fact is, that with the otherwise equal opportunities they will usually store much more honey during the first part of the season than during the last, if they are obliged to build the comb in which to store it;

so it will generally be found more profitable to use combs for extracting in which to secure the fall nectar.

Lastly, the character of the home market is to be considered. I think it is safe to say that if three-fifths of the price of comb honey can be obtained for extracted honey, the production of the latter is the more profitable in all circumstances; and there are many home markets in which nearly or quite as much is obtained for the latter as for the former. Those who are blessed with such a market should cultivate it assiduously, and keep it supplied constantly with extracted honey of the finest quality that can be produced.

It is to be noted, also, that generally the man makes the market. Some have a remarkable faculty in this way. They never have any difficulty in making a market for anything that they have to sell. Such should make the most of this talent, and thus not only greatly benefit themselves, but also to a considerable extent relieve the markets of the larger cities.

R. L. TAYLOR.

T. F. Bingham—I should say for a home market, extracted honey; to send to Chicago, or for merchants to handle, comb honey is probably the most profitable.

Prof. Cook—How much more extracted than comb honey can you produce, Mr. Taylor?

R. L. Taylor—It depends upon how the honey is produced. If left upon the hive until the season is over, perhaps 50 per cent. There is also another point that is usually lost sight of, viz: Colonies worked for extracted honey become more populous. For instance, if one-half of an apiary is worked for extracted honey, and the other half for comb honey, those colonies worked for extracted honey will become the most populous; and it should be expected that they will gather more honey.

T. F. Bingham—It may not be generally known that honey stored and ripened by a strong colony is of superior quality.

Using Honey in Cooking.

T. F. Bingham—Honey cannot be successfully used in cooking; especially in making cakes or anything that must be baked. The great heat necessary burns the honey and destroys the flavor, and spices must be used to cover up the burnt flavor.

Mrs. R. L. Taylor—Is it white?

President Hilton—Not so white as some cake.

Mrs. Taylor—Yes, but Mr. Hilton, is it white?

President Hilton—Not so white as sponge cake.

Mrs. Taylor—Is it yellow?

President Hilton—No.

Mrs. Taylor—We make a coffee cake with honey, but it is neither white, yellow, nor sweet; it is brown.

Prof. Cook—We had some peculiar honey about three years ago. I presume you all know what it was without my telling you; it was miserable stuff. We let a baker in Lansing try some of it in making cookies, telling

him what it was, and he found that it answered just as well as any honey, and he bought all we had.

T. F. Bingham—By using steam in cooking food, honey can be used.

A. I. Root—We have been getting some very superior cakes made with honey. Their manufacture is a secret.

On motion of Prof. Cook, it was voted that a committee be appointed to confer with the Government in regard to its buying and distributing the Chapman honey-plant seed.

The convention then adjourned to meet at 1:30 p.m.

AFTERNOON SESSION.

The convention was called to order at 1:30 p.m., with President Hilton in the chair.

It was voted that the Association hold its next annual meeting at Jackson, Mich., the time of meeting to be decided by the officers.

The election of officers resulted in the re-election of the old officers, viz: President, Geo. E. Hilton, of Fremont; Secretary, H. D. Cutting, of Clinton; and Treasurer, M. H. Hunt, of Bell Branch.

Prof. A. J. Cook at this time delivered a lecture upon

The Anatomy of Bees.

He described the glandular system in particular. One pair of glands furnishes the saliva, and another the food for the larvæ. The drones do not have this gland, and it is only rudimentary in the queen, which shows that she once nursed the larvæ, as the queen bumble-bee now does in the spring. The change that has taken place in the honey-bee in this respect, is another proof of the correctness of the evolution theory. This gland is very deficient in old worker bees, which shows that nursing is not their business. It is the food furnished by these glands that the workers feed the queen. If she had to eat honey and pollen, and digest it herself, she could never lay twice her weight in eggs in one day. Another set of glands furnishes a fluid that changes the character of the nectar gathered, changes the cane-sugar to glucose. This glucose may be chemically the same as commercial glucose, but there are other tests that show it to be different.

Mr. T. F. Bingham, of Abonia, Mich., then read an essay on,

How to Improve Our Bees.

To the casual observer, as also to the young student, this subject is one of almost illimitable scope, presenting vast possibilities; and while considered as in a certain sense parallel and analogous to the improvements realized by the breeders of thoroughbred horses, cattle and sheep, the almost certain realization of the enthusiastic bee-keeper's brightest dream lends a perpetual charm. Many presumably well-balanced and conservative bee-keepers have devoted much time, money and practical endeavor to the ever charming and paramount wish to enhance the practical economic value of the honey-bee. While the success so far un-

attained in no way narrows or circumscribes the field of enthusiastic vision, the practical results attained serve to modify in a certain sense the immediate hope of marked improvement.

It would not be safe to say that no gain had as yet been made in the direction of color, disposition and industrial value of bees. Yet it is strictly safe to venture the assertion that, while we have many modifications and crosses of races, these modifications do not in a practical sense justify the hope or stimulate the belief that material and marked improvements are possible from the mixing of races of honey-bees.

If, as now seems probable in the near future, those bee-keepers wishing to realize the best home market, and the surest returns for their product, should adopt the plan of part comb and part extracted honey, little effort will, in the light of past successes, be bestowed upon experiments to improve any mixture of Italian bees, whose queen and workers will allow of the rapid manipulation of the combs and hive without running.

However much may have been hoped and dreamed in regard to the Utopian honey-bee, "Apis Americana," one great fact, practical and demonstrable, calls us back from Wonderland, and forces the conviction that, while our standard of excellence is the Ligurian or Italian bee and her near crosses, "Apis Americana" will needs have more than a pedigree to install her in the heart of the practical bee-keeper.

T. F. BINGHAM.

After the reading of the above essay, it was discussed as follows:

Prof. Cook—The two great points upon which we need to work are, to improve our bees and our honey-plants.

L. C. Whiting—I once had a colony that built but few brace-combs; by rearing queens from this queen, I secured a strain of bees that built almost no brace-combs at all.

Mr. John Rey, of East Saginaw, Mich., then read an essay on,

Marketing Honey at Home.

I will give only my own experience in a home market, having never sent any honey to outside markets, for the simple reason that I have found ready sales in my home market.

Advertising is the life of trade, and the same holds good in bee-keeping. Up to four years ago I could not always dispose of the honey that I produced the season before, and I would have some old honey on hand when new honey was coming in. I found that something must be done in order to get my honey before the consumer, and I adopted the plan of advertising. I did it in this way:

I noticed advertised in the AMERICAN BEE JOURNAL, a leaflet called "Why Eat Honey," and also a pamphlet on "Honey as Food and Medicine." I thought that would be a good way to work up a home market; so I sent for several hundred copies of each, and with every package of

honey I sold, I would give one of these "leaflets," and at the same time I would stamp my name on the leaflets, and for the comb honey I would stamp it on the sections. For extracted honey I would always label the glasses. I was surprised to see my honey sell so fast. My honey was all gone before the new honey was coming in, and I had to do something in order to hold my trade, not having been able since to produce honey enough from my own bees to supply my home market; so I have to buy honey to fill my orders until my new honey is ready the following season.

In buying honey I always make it a point to buy it from my neighbor bee-keepers, providing that I can get it at some profit; of course the profit is small. They keep posted on the market price, and they expect to get nearly as much for their honey from me as I would get myself. But even so, if I get their honey at a small profit, it takes that honey off the market, and gives me a chance to bring mine on, with the prospect of better prices in the future.

I have often thought that if I had enough money, I would buy all the honey from my neighbor bee-keepers, and from farmers that produce little honey to sell. For instance, in Saginaw county I would start a honey house, and the producer of honey would bring his honey to me, and the retailer and consumer would look to me for their honey. But being a poor man, I will have to drop that idea, and do the best I can; but if such a live man could be found in every county throughout the country, with plenty of money and experience in the marketing of honey, I think that bee-keepers at large would get better prices for their honey.

Why, the farmer knows in the morning before he starts to the city with a load of wheat, what he is going to receive for his wheat, by seeing the prices in the daily market reports. He takes his wheat to the flour mills, gets his cash, and returns home happy. The retail grocer, and the consumer, get their flour from the flour mills; and if the producer of honey could bring his honey to the "honey man," as you would call him, why, the retail grocer and consumer would look to the honey man for their honey.

As to putting up honey in marketable shape, I have nothing new to offer to the experienced honey producer. It is from them that I have taken my lesson—by attending the bee-conventions, and reading different bee-books. But to the inexperienced bee-keeper I would say: Never let a section of honey go out without your name on the section; or if it is extracted honey, always put up the nicest and best honey in glass packages, and put your name on it, on a nice label. By putting up honey in glass jars, the consumer can always see what he is buying, and, besides, the jar is of some use after the honey is consumed.

JOHN REY.

After its reading, Mr. Rey explained that he prepared it hurriedly, and

neglected to mention that he went among the grocers and bought up wax at 25 cents per pound, melted it and molded it in small cakes, and then sold it back to the dealers for 80 cents per pound, the dealers retailing it for 5 cents a cake, eleven cakes weighing a pound.

A. I. Root—I wish to say for the encouragement of Mr. Rey, that I have never seen finer displays of honey in stores than he has here in the groceries. I wish we could have them photographed.

T. F. Bingham—The best use that can be made of poor honey is to make it into vinegar. A pound of honey will make a gallon of vinegar. At about 45° to 50° of temperature will make vinegar.

The committee on exhibits reported the following:

Eden's comb-foundation fastener, Eastwood, Ont.

Betsinger's crate with wire-cloth separators, and paste-board shipping boxes.

Bingham's smoker and honey knife.

W. Z. Hutchinson, case of very fine comb honey.

President Hilton, four samples of extracted honey—basewood, maple, willow-herb and raspberry.

H. D. Cutting, fine collection of extracted honey, all under the same treatment, one part being candied and the other not; also an entrance feeder.

Mr. Soper, sections, and Van Deusen's flat-bottom foundation.

Dr. L. C. Whiting, sample of very fine honey vinegar.

Sections and separators from the Berlin Fruit-Box Company.

Dr. Tinker, sections, perforated-zinc, and a queen-cage.

O. J. Hetherington, machine for putting together 4-piece sections.

John Rey, fine collection of extracted honey; also solar wax-extractor, steam extractor, Stanley's honey extractor with uncapping-can attached; also foot-press foundation-fastener.

The committee on resolutions then reported the following, which were unanimously adopted:

Resolved, That the thanks of this convention are hereby gratefully tendered the business men of East Saginaw, for the generous and agreeable way in which they have ministered to our entertainment.

Resolved, That we heartily appreciate and hereby express our gratitude to the officials of this city, for the hearty welcome extended, and for the hall provided us for our sessions.

Resolved, That we return our thanks to the managers of the Sherman House, for the bountiful way in which they have provided for our physical wants, and for the reduction in rates granted.

Resolved, That our thanks are due, and are hereby extended to resident bee-keepers, for their successful efforts to render our sessions pleasant and profitable.

The convention then adjourned to meet at Jackson, Mich., next year, at the call of the executive committee.

Flint, & Mich.

Only One Book of History with every club subscription to the AMERICAN BEE JOURNAL and New York World, is all that we can offer. The book is worth the whole money to be sent, and then you may consider the other two papers as a free gift.

Eastern Farmer.

A Review of the Past Season.

SEASONABLE HINTS.

The honey season is over; the flowers are faded, and their sweet perfume no longer pervades the air, and the cheerful hum of the busy bee can no longer be heard, as the chilly autumn winds keep them within the hive, and oblige them to seek the sustaining warmth of the cluster, which has been made as comfortable as chaff cushions, dried leaves or woollen mats can make them, and if they are to be left on the summer stands they should be let "severely alone," for awhile at least.

Now, as there is nothing more we can do for our pets, let us with a retrospective view, think over and profit by the many mistakes we have made during the past season. Only by the past can we judge of the future. While some of us hope we may never see another season like the one just past, yet many things we have learned that if jotted down will be of great benefit to us hereafter. And the many mistakes we have made, if we acknowledge them as such, and carefully consider what we should have done, will be of inestimable value in our future manipulations.

If, for instance, we did not have hives ready when the bees swarmed, and they were left hanging in a tree until a box could be thrown together, that experience ought to be remembered during the leisure hours this winter, and a lot of hives prepared for future use.

If for want of empty frames the queen had no cells in which to deposit eggs, and the numbers gradually diminished until there were not enough left to warm the hive sufficiently to hatch an egg, we should own it as a fault and not blame the bees or the queen.

Did we put on the sections soon enough? Did we think when we saw a dead queen in front of a hive that she was probably killed the day before, when we opened the hive at an unseasonable hour, when the cold wind was blowing directly on the frames?

Where there is an effect there is certainly a cause; and by understanding the cause we may change the effect to our own advantage. There is no "witch work" about bee-keeping, nor is there much in luck.

If we allow our bees to go into winter quarters with no young bees, or without sufficient stores, or proper protection, and they die of old age or spring dwindling, we call it poor luck.

If we knew a farmer who wintered his stock in an unventilated barn cellar, and fed them only on straw, we would not call it poor luck if they were not fat in the spring. The term luck is as applicable to bee-keeping as to the case of the stock, and no more, with perhaps the exception of the pasturage, as some of us are more fortunate in having more indigenous

honey-producing plants in our district than are others.

Now is the time to make our plans for the next year's work. Shall we run for extracted or comb honey? If for the latter, then before spring the "sections" should be got ready, put together all ready for the starters, which can be put in just before they are wanted. If for extracted, an extra number of "frames" will be required. They can be nailed up and wired; so a great deal of the extra work about the apiary may be ready for the rush of the honey season; and a book of mistakes could be kept to good advantage, in which to put down all errors made, and important things learned by experience; also a book of wants in which to write any handy thing needed in our work that can be constructed at our leisure, and will save a great deal of time when we are in a hurry.

Local Convention Directory.

| 1888. | Time and place of Meeting. |
|--------------|---|
| Jan. 7. | Susquehanna County, at New Milford, Pa. H. M. Seeley, Sec., Harford, Pa. |
| Jan. 10. | Cortland Union, at Cortland, N. Y. R. L. Weaver, Sec., Dryden, N. Y. |
| Jan. 10, 11. | Ontario, at Woodstock, Ont. W. Conso, Sec. |
| Jan. 10, 11. | Ohio State, at Columbus, Ohio. Frank A. Eaton, Sec., Bluffton, O. |
| Jan. 11. | Nebraska State, at Lincoln, Nebr. Henry Patterson, Sec., Humboldt, Nebr. |
| Jan. 17, 18. | N.W. Ills. & S.W. Wis., at Rockford, Ill. D. A. Fuller, Sec., Cherry Valley, Ills. |
| Jan. 18, 19. | Vermont State, at Burlington, Vt. R. H. Holmes, Sec., Shoreham, Vt. |
| Jan. 17-19. | New York State, at Utica, N. Y. G. H. Knickerbocker, Sec., Pine Plains, N. Y. |
| Jan. 20. | Haldimand, at Cayuga, Ontario. E. C. Campbell, Sec., Cayuga, Ont. |

In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

SELECTIONS FROM OUR LETTER BOX

Packing for Bees in Winter, etc.—James Holden, Marietta, Ohio, on Dec. 8, 1887, writes:

I think that the best cushions for protecting bees in winter can be made from some suitable cloth filled with the "ground cork" that white grapes are packed in from foreign countries; as there is no odor from it, it never gets musty, and can be had very cheap from fruit stores. Very little honey was gathered here this year. What is the advantage to bees going into the hives the longest way of the hive, over the entrance in the narrow way of the hive; or in their going into the hives lengthwise of the brood-frames, or crosswise of them?

[The advantage of the brood-frames running lengthwise of the brood-chamber is that the ends of the frames come to the entrance, thereby giving the bees easy and direct access to any comb desired.—ED.]

Sour and Rusty Honey.—A. F. Wheeler, Rossville, Ia., on Dec. 7, 1887, says:

I got about 100 pounds of surplus honey from 9 colonies, spring count, and increased them to 16 colonies. Last year I got 450 pounds from the same number of colonies. I would like to know the cause of the following effects: 1. In one colony the honey in the surplus boxes smelled sour, looked frothy, and some of the cells were drawn out longer than the general surface. 2. On the surface of some of the sections there appeared rusty spots, in which the cell-caps were sunken in some. Please state the cause, and also the remedy.

[I cannot tell the cause at this range. It is from a local cause, and no disease. The cure is this: Melt up the whole mass, evaporating the honey, and skimming off the wax. Put the combs in a pan in an oven, and leave one door open. Keep the temperature at about 100° to 110°, till all is liquid, and then set it to one side till the waxen surface is cool; and while the honey is still warm, tap the wax surface, tip up the pan, and leave it until all drains out clean. This is the way we treat cappings, and in this way we save every particle of wax and honey, and both are of the best quality.—JAMES HEDDON.]

Bees in Good Condition.—O. L. Hershiser, Big Tree Corners, N. Y., on Dec. 12, 1887, says:

As far as can be judged from appearances thus far, bees are in good condition in this locality. They have had opportunity to fly nearly every week, and colonies seem to be strong. In this section bees are for the most part wintered on the summer stands, and usually very successfully when chaff hives are used. Last winter, during two warm, windy days, with a very damp atmosphere, the bees flew profusely, and nearly one-third of them were chilled and unable to return to their hives. The result was heavy spring dwindling, by which fully one-half of some apiaries perished. Those having bees in the cellar did not suffer from this cause.

Plenty of Stores and Young Bees.—W. Mason, of Fillmore, Ind., on Dec. 12, 1887, writes:

The long-continued drouth was broken here the last of November, which made all hearts glad. I stored my bees in the bee-house on Nov. 19, it being the first cold spell. They were in fair condition, with plenty of stores, excepting 3 or 4 colonies which were rather light, and will have to be fed later in the winter, or in early spring. We had a few light showers in August, that started the bees to breeding, and leaving them well stocked with young bees. In October

we had the largest flow of "honey-dew" ever known in this country, on a few kinds of timber, such as oak, hickory and elm, and it was almost as fair as white clover honey. If the winter should prove a very cold one, I shall have my fears about successfully wintering; but if the winter proves to be mild, so we can give our bees an occasional flight, then they may winter through all right.

Poor Season for Bees.—Thos. W. Weaver, Edinburg, Ind., on Dec. 10, 1887, writes:

I have kept bees near Edinburg for five years, and the season of 1887 has been the poorest that I have experienced. From 20 colonies in fair condition in the spring, I have taken about 300 pounds of comb honey, and increased them to 32 colonies. I had to feed them for winter. I have packed them on the summer stands. I owe many thanks to the AMERICAN BEE JOURNAL for my success.

Poor Season, but Not Discouraged.—S. H. Moss, Colchester, Ill., on Dec. 13, 1887, says:

My report for 1887 is as follows: Spring count, 80 colonies, and this fall I have the same number. Of comb honey in finished sections, I have 100 pounds, and in unfinished sections, but cut out, 300 pounds. I fed to hybrid bees, for winter stores, 300 pounds of sugar. The poor season was on account of the drouth. But I am not discouraged yet.

Small Yield of Honey.—George Shafer, Neoga, Ill., writes:

My bees did nothing the past season, the yield from 30 colonies being only 300 lbs. of extracted honey. It has been the worst failure that I ever knew.

No Surplus from Black Bees.—A. E. Maley, Auburn, Nebr., on Dec. 14, 1887, says:

The spring of 1887 was very favorable here, until July. My bees swarmed early. Buckwheat yielded well, but I had no surplus honey from the black bees. My bees are still outdoors, and are not consuming much stores. The dry atmosphere of Nebraska will insure safe wintering.

Securing Proper Ventilation.—G. A. Adams, Perrysville, O., on Dec. 10, 1887, writes:

Bee-keepers ought to know more than they do about ventilation. The bees ventilate as all ventilating should be done—at the bottom! No open drafts upon their heads are allowed, if they can prevent it. The used-up air is expelled at the bottom, and new air taken at the same place. "Music Hall" in Cleveland holds 5,000 people, and the hot air comes from below, and the cold or exhausted air is drawn out by heat through the floor; that is the true, scientific

method of ventilating. It gives equal temperatures at equal heights in any building where it is properly applied. I am glad Mrs. Harrison has touched on the subject. At the Detroit convention, in 1885, I could not stay in the room, for want of air.

Mustard for Bees.—W. H. Stewart, Kimball, Dak., asks:

I want to raise mustard for bees and for seed. What time of the year is best to sow the seed?

[It may be sown very early in the spring in shallow drills, wide enough for the cultivator, using from 6 to 10 pounds per acre; or it may be sown broadcast, 25 pounds to the acre. For seed it should not be sown later than July 1. When ripe it does not shell out by the wind, and may be harvested at leisure.—ED.]

Honey Trade in Philadelphia.—Arthur Todd, Philadelphia, Pa., on Dec. 9, 1887, writes:

With an average temperature of 58° Fahr., and the bees flying every day, the sales of honey by groceries in this city is, and has been very poor ever since the opening of the season. Grocers have accepted the advance in prices, and for good honey they have not grumbled to pay good prices, viz: 18 to 20 cents. The possibility of lower prices now comes as a consequence of the non-sale of the honey so purchased; altogether owing to the fact that cold weather and the consumption of honey are concomitant.

Convention Notices.

☞ The next meeting of the Nebraska State Bee-Keepers' Association will be held on Jan. 11, 1888, at Lincoln, Nebr.

HENRY PATTERSON, Sec.

☞ The annual convention of the Vermont State Bee-Keepers' Association will be held at the Van Ness House, in Burlington, Vt., on the Jan. 18 and 19, 1888.

H. H. HOLMES, Sec.

☞ The Ontario Bee-Keepers' Association will hold its annual meeting at Woodstock, Ontario, on Tuesday and Wednesday, Jan. 10 and 11, 1888.

W. COUSE, Sec.

☞ The Hardin County Bee-Keepers' Association will meet at the Court House in Eldora, Iowa, on the second Saturday in each month, at noon (12 o'clock), until further notice.

J. W. BUCHANAN, Sec.

☞ The fifth annual Ohio State Bee-keepers' Convention will be held in the United States Hotel, corner High and Town Sts., Columbus, O., on Jan. 10 and 11, 1888. An interesting programme will be arranged. Reduced rates at the hotel.

FRANK A. EATON, Sec.

☞ The Cortland Union Bee-Keepers' Association will hold their annual meeting at Cortland, N. Y., on Tuesday, Jan. 10, 1888, for the election of officers and to transact such business as may come before the meeting. All bee-keepers are invited.

R. L. WEAVER, Sec.

☞ The Susquehanna County Bee-Keepers' Association will meet at New Milford, Pa., on Jan. 7, 1888. Subjects for discussion: "The Best Way to Prevent Swarming," and "Is it Advisable to Italianize Colonies?" All bee-keepers are cordially invited.

H. M. SEELY, Sec.

☞ The annual meeting of the Northwestern Illinois and Southeastern Wisconsin Bee-Keepers' Association will be held in G. A. R. Hall, corner of State & North Main Sts., in Rockford, Ill., on Jan. 17 and 18, 1888. Dr. Miller will be present, and a good programme is in course of preparation.

D. A. FULLER, Sec.



Issued every Wednesday by
THOMAS G. NEWMAN & SON,
 PROPRIETORS,
 923 & 925 WEST MADISON ST., CHICAGO ILL.
 At One Dollar a Year.

ALFRED H. NEWMAN,
 BUSINESS MANAGER.

Special Notices.

To Correspondents.—It would save us much trouble, if all would be particular to give their P. O. address and name, when writing to this office. We receive letters (some inclosing money) that have no name; many others having no Post-Office, County or State. Also, if you live near one post-office and get your mail at another, be sure to give the address we have on our list.

As there is Another firm in Chicago by the name of "Newman & Son," we wish our correspondents would write "American Bee Journal" on the envelope when writing to this office. Several letters of ours have already gone to the other firm (a commission house), causing vexatious delay and trouble.

We will Present Webster's Dictionary (pocket edition), and send it by mail, postpaid, for two subscribers with \$3. It is always useful to have a dictionary at hand to decide as to the spelling of words, and to determine their meaning.

Sample Copies of the BEE JOURNAL will be sent FREE upon application. Any one intending to get up a club can have sample copies sent to the persons they desire to interview, by sending the names to this office or we will send them all to the agent.

Money Orders can now be obtained at the Post Offices at reduced rates. Five dollars and under costs now only 5 cents. As these are absolutely safe, it will pay to get them instead of the Postal Notes which are payable to any one who presents them, and are in no way safe.

Simmins' Non-Swarming System.—We have received another shipment of these books, and have made such favorable terms, that we will now club them with the BEE JOURNAL for one year, both postpaid, for \$1.25. We can supply all orders by return mail. The subscription to the BEE JOURNAL can be for next year, this year, or may begin anew at any time.

A Valuable Book Given Away.—We have made arrangements by which we can supply the AMERICAN BEE JOURNAL and the New York World—both weekly—for one year, for \$2.10, and present the subscriber with one of these books, bound in Leatherette Free Calf:

HISTORY OF THE UNITED STATES—from 432 to 1887.—320 pages.—Price, \$2.00.

HISTORY OF ENGLAND—from before the Christian era to 1887.—Price, \$2.00.

EVERYBODY'S BOOK—a treasury of useful knowledge.—410 pages.—Price, \$2.00.

The extra 10 cents is for postage on the book, which must be selected by the subscriber at the time of sending the subscription, and cannot be afterwards exchanged.

The book selected will be mailed in a cardboard case, at the subscriber's risk; if lost it cannot be replaced. Be sure to write your name, post-office, county and State plainly, and then the risk of loss is very small. The subscriptions can commence at any time.

Remember, the amount is \$2.10 for both papers, and the Book and postage.

Enameled Cloth for covering frames, price per yard, 45 inches wide, 20 cents; if a whole piece of 12 yards is taken, \$2.25; 10 pieces, \$20.00; if ordered by mail, send 15 cents per yard extra for postage.

Preserve your Papers for reference. If you have no **HINDER** we will mail you one for 60 cents, or you can have one **FREE** if you will send us 3 new yearly subscriptions for the BEE JOURNAL.

We have a large quantity of CHOICE WHITE EXTRACTED HONEY, in kegs holding from 200 lbs. to 225 lbs. each, which we will deliver on board the cars at 10 cents per lb. Orders solicited.

Yucca Brushes are employed for removing bees from the combs. They are a soft, vegetable fiber, and do not irritate the bees. We can supply them at 5 cents each, or 50 cents a dozen; if sent by mail, add 1 cent each for postage.

We are sometimes asked who our authorized agents are. Every subscriber is such an agent; we have no others, and we greatly desire that each one would at least send in the name of one new subscriber with his own renewal for 1888. The next few weeks is the time to do this. We hope every subscriber will do his or her best to double our list of subscribers.

We pay 20 cents per pound, delivered here, for good Yellow Beeswax. To avoid mistakes, the shipper's name should always be on each package.

We have a few Sets of the BEE JOURNAL for the present year, and can fill orders until further notice, for all the numbers from the first of last January. New subscribers desiring these back numbers, will please to state it plainly, or they will not be sent.

OUR CLUBBING LIST.

We supply the American Bee Journal one year, and any of the following publications, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage prepaid.

| | Price of both. Club |
|-----------------------------------|---------------------|
| The American Bee Journal..... | 1 00.. |
| and Gleanings in Bee-Culture..... | 2 00.. 1 75 |
| Bee-Keepers' Magazine..... | 1 50.. 1 45 |
| Bee-Keepers' Guide..... | 1 50.. 1 40 |
| The Apiculturist..... | 2 00.. 1 80 |
| Canadian Bee Journal..... | 2 00.. 1 80 |
| The 6 above-named papers..... | 5 00.. 4 50 |
| and Cook's Manual..... | 2 25.. 2 00 |
| Bees and Honey (Newman)..... | 2 00.. 1 75 |
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| Iowa Homestead..... | 2 00.. 1 90 |

One yearly subscription for the AMERICAN BEE JOURNAL must be ordered with each paper or book, in order to take advantage of the prices named in the last column.

To All New Subscribers for 1888 we will present the remaining numbers of 1887—over a year's subscription to the oldest and best bee-paper in America for **only \$1.00!** No investment will repay such excellent dividends to a bee-keeper, as a year's subscription to the AMERICAN BEE JOURNAL. Subscribe now, and get the rest of the numbers of this year free. The sooner you subscribe the more you will receive for your money.

When Renewing your subscription please try to get your neighbor who keeps bees to join with you in taking the BEE JOURNAL. It is now so cheap that no one can afford to do without it. We will present a **Hinder** for the BEE JOURNAL to any one sending us three subscriptions—with \$3.00—direct to this office. It will pay any one to devote a few hours, to get subscribers.

Colored Posters for putting up over honey exhibits at Fairs are quite attractive, as well as useful. We have prepared some for the BEE JOURNAL, and will send two or more free of cost to any one who will use them, and try to get up a club.

We Supply Chapman Honey-Plant seed at the following prices: One ounce, 40 cts; 4 ounces, \$1; ¼ pound, \$1.75; 1 lb., \$3. One pound of seed is sufficient for half an acre, if properly thinned out and re-set.

Should any Subscriber receive this paper any longer than it is desired, or is willing to pay for it, please send us a postal card asking to have it stopped. Be sure to write your name and address plainly. LOOK AT YOUR WRAPPER LABEL.

Red Labels for one-pound pails of honey, size 3x4¼ inches.—We have now gotten up a lot of these Labels, and can supply them at the following prices: 100 for \$1.00; 250 for \$1.50; 500 for \$2.00; 1,000 for \$3.00; all with name and address of apiarist printed on them—by mail, postpaid.

Honey and Beeswax Market.

CHICAGO.

HONEY.—We quote: White clover 1-lb. sections 19¢; 2-lb. 36¢; 3-lb. 51¢; 4-lb. 66¢; 5-lb. 81¢; 6-lb. 96¢; 7-lb. 111¢; 8-lb. 126¢; 9-lb. 141¢; 10-lb. 156¢; 11-lb. 171¢; 12-lb. 186¢. Extracts, firm at 75¢ to 100¢, depending upon the quality, and style of package. Receipts are somewhat heavier, and when sold in a jobbing way prices must be shaded from 1 to 2 cts. per lb.

BEESWAX.—22¢ to 23¢.
Nov. 8. S. T. FISH & CO., 180 B. Water St.

CHICAGO.

HONEY.—Prices range from 18¢ to 20¢ for best grades, with light demand; 2-lb. sections, 15¢ to 16¢. Dark is not wanted. Extracted is steady at 7¢ to 10¢, according to style of package.

BEESWAX.—20¢ to 22¢. H. A. BURNETT,
Dec. 7. 181 South Water St.

DETROIT.

HONEY.—Best white 1-lb. sections, 19¢ to 20¢. Extracted, 11¢ to 12¢. Demand brisk.

BEESWAX.—21¢ to 23¢.
Dec. 18. M. H. HUNT, Bell Branch, Mich.

CLEVELAND.

HONEY.—Best white 1-lb. sections sell at 19¢ to 20¢ cts. Extracted, 7¢ to 8¢. Demand small.

BEESWAX.—22¢ to 23¢.
Dec. 15. A. C. KENDEL, 115 Ontario St.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 17¢ to 18¢; the same in 2-lb., 15¢ to 16¢; buckwheat 1-lb., 12¢ to 14¢; 2-lb., 10¢ to 12¢. Of grades 10¢ to 12¢ per lb. less. White extracted, 8¢ to 10¢; buckwheat, 5¢ to 6¢. Southern, per gallon, 60¢ to 70¢ cts. Market seems to be unsettled.

BEESWAX.—22¢ to 23¢.
McCaul & Hildreth Bros.,
Sept. 20. 25 & 30 W. Broadway, near Duane St.

KANSAS CITY.

HONEY.—We quote new crop: Choice white 2-lb. sections, 16¢ to 18¢; dark 2-lb., 15¢ to 16¢; choice white 1-lb., 20¢ to 22¢; dark 1-lb., 15¢ to 17¢. White extracted, 6¢ to 7¢; dark, 5¢ to 6¢. Demand good, but light supply.

BEESWAX.—21¢ to 22¢.
Nov. 23. HAMBLIN & BEARSS, 514 Walnut St.

ST. LOUIS.

HONEY.—Choice comb, 15¢ to 16¢; latter price for choice white clover in good condition. Strained, in barrels, 4¢ to 5¢. Extra fancy, of bright color and in No. 1 packages, 5¢ cent advance on above. Extracted, in bins, 5¢ to 6¢; in cans, 6¢ to 6¢. Short crop indicates further advance in prices.

BEESWAX.—20¢ for prime.

Oct. 31. D. G. TUTT & CO., Commercial St.

CINCINNATI.

HONEY.—We quote extracted at 4¢ to 5¢ per lb. Choice comb, 16¢ to 20¢, in the jobbing way. The demand for extracted exceeds arrivals, and for comb the demand is tame.

BEESWAX.—Demand good—20¢ to 22¢ per lb. for good to choice yellow, on arrival.

Dec. 12. C. F. MUTH & SON, Freeman & Central A.

NEW YORK.

HONEY.—We quote: Fancy white 1-lb. sections, 17¢ to 18¢; fancy 2-lb., 15¢ to 16¢. Lower grades 16¢ to 20¢ per lb. less. Buckwheat 1-lb., 11¢ to 12¢; 2-lb., 10¢ to 11¢. Extracted, white, 9¢ to 10¢; buckwheat, 6¢ to 7¢. Market firm.

Nov. 22. F. G. STROHMEYER & CO., 122 Water St.

PHILADELPHIA.

HONEY.—Fancy white 1-lb., 19¢ to 20¢; fair 1-lb. 17¢; dark 1-lb. are also sale at 14¢ to 15¢; fancy 2-lb., white, 15¢ to 16¢; buckwheat fancy 1-lb., 13¢ to 14¢ cts. common, 12¢. Prices tend downward.

BEESWAX.—22¢ to 23¢.
Dec. 11. ARTHUR TODD, 2122 N. Front St.

MILWAUKEE.

HONEY.—Choice white 1-lb., 20¢; fair, 18¢ to 19¢; 2-lb., 15¢ to 16¢; 3-lb., 10¢ to 11¢. White extracted in kegs or half-barrels, 5¢ to 6¢; in pails or cans, 6¢ to 10¢; amber, in ½-barrels, 9¢ to 10¢; dark in kegs and barrels, 7¢ to 8¢. Demand good, supply fair.

BEESWAX.—22¢ to 23¢.
Dec. 15. A. V. BISHOP, 143 W. Water St.

SAN FRANCISCO.

HONEY.—We quote: White to extra, 15¢ to 16¢; amber, 10¢ to 12¢. Extracted, white liquid, 7¢ to 8¢; amber and candied, 5¢ to 6¢. Market quiet.

BEESWAX.—20¢ to 24¢.
Dec. 10. SCHACHT & LEMCKE, 129-134 Davis St.

BOSTON.

HONEY.—New crop, 1-lb. sections, 19¢ to 20¢; 2-lb. sections, 17¢ to 18¢. Extracted, 6¢ to 8¢. The market is not very brisk and sales are only fair.

BEESWAX.—25 cts. per lb.
Dec. 10. BLAKE & HIPLEY, 57 Chatham Street.

SAN FRANCISCO.

HONEY.—We quote: White comb, 17¢ to 18¢; amber, 12¢ to 13¢. Light amber to white extracted, 7¢ to 8¢; amber, dark and candied, 6¢ to 7¢. Market firm and stocks light.

BEESWAX.—22¢ to 23¢.
Dec. 12. O. B. SMITH & CO., 423 Front St.

To Delinquents.—After Jan. 1, 1888, we shall discontinue sending the AMERICAN BEE JOURNAL to those who have not responded to the bills we sent out a few weeks ago. This does not mean that we shall try to deprive any one of the pleasure of reading the BEE JOURNAL who really desire its continuance, but find it difficult to pay now. Such can get a short extension of time by asking for it. We should be sorry to lose any subscriber who wishes to have its weekly visits continued, but do not want any to continue to take it who do not think they are getting the full worth of their money. We are contemplating many new features and improvements for next year, which we shall mention in detail in future.

Sweet Clover, (*Melilotus alba*), furnishes the most reliable crop of honey from July until frost, and at the same time it furnishes the most delicious honey, light in color, and thick in body. It may be sown in waste places, fence corners, or on the roadside, at any time of the year.

Sow two years running, on the same land, and the honey crop will be without intermission. Money invested in Sweet Clover Seed will prove a good investment. The Seed may be obtained at this office at the following prices: \$6.00 per bushel (60 lbs.); \$1.75 per peck, or 20 cents per pound.

Don't do it!—Notwithstanding our many cautions, some persons still persist in sending silver in letters. In nine cases out of ten it will break the envelope and be either lost or stolen. Cases come to light nearly every day, showing that silver sent in letters stops somewhere on the way. It is an invitation to the thief—a regular temptation! If you wish to safely send money, get a Post-Office Money Order, Express Order, or Bank Draft on Chicago or New York. When money is sent in either of the above-named ways, it is at our risk. In any other manner, it is at the risk of the sender.

Photographs of Bee-Keepers.—We have purchased a lot of the "medley" gotten up by E. O. Tuttle, containing the faces of 131 representative apiarists, and a photographic sketch of each one, and will send it and the BEE JOURNAL for one year for \$1.75, or will present it free by mail to any one for a club of three subscribers and \$3.

New Subscribers can obtain the full numbers for 1887 and 1888 for \$1.80, as long as we have any sets of 1887 left. There are only a few, and to get them an early application will be necessary.

System and Success.

☞ All who intend to be systematic in their work in the apiary, should get a copy of the Apiary Register and commence to use it. The prices are reduced, as follows:

For 50 colonies (120 pages).....\$1 00
" 100 colonies (220 pages).....1 25
" 200 colonies (420 pages).....1 50

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable.

To Advertisers.—The first number of the AMERICAN BEE JOURNAL for 1888, will be a splendid number for Supply Dealers to make their announcements to the bee-keepers of America. Besides the large regular issue, we shall print thousands of extra copies which will be sent out as samples. This will be a rare opportunity for advertisers. In order to obtain space, the copy must be sent AT ONCE. For rates see first page of this issue. The number will be ILLUSTRATED, and will present the finest appearance of any bee-paper in the world. It will be printed from NEW type, on fine, thick paper, and will contain several extra pages of reading matter. Immediate attention will be necessary to secure the rare advantages here offered to advertisers.

Advertisements.

WANTED.—WORK, by a Bee-Man who understands the business.
FRANK CURT,
4741f (Lock Box 62), East St. Louis, Illa.

THE BRITISH BEE JOURNAL

AND BEE-KEEPER'S ADVISER.

It is published every week, at 10s. 10d. per annum. It contains the best practical information for the apiarist. It is edited by Thomas Wm. Cowan, F.G.S., F.R.M.S., etc., and published by John Huckle, King's Langley, Herts, England.

Bee-Keepers' Cards. HEAD-QUARTERS!

Besides our beautiful 4-color Chromo Card, we have plain designs.—Fancy Cards, Stationery, Monograms for Business and Amusement, for old and young, at astonishing low prices. Circulars free. Package 25 Cards 10¢. Neat package cards and sample honey-candies 15¢. Address J. H. MARTIN,
441y HARTFORD, Washington Co., N.Y.

HOW TO RAISE COMB HONEY,

PRICE 5 cents. You need this pamphlet, and my free Bee and Supply Circular. SIAST
OLIVER FOSTER, Mt. Vernon, Linn Co., Iowa.

Dadant's Foundation Factory, wholesale and retail. See advertisement in another column

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After Forty years' experience in the preparation of more than One Hundred Thousand applications for patents in the United States and Foreign countries, the publishers of the Scientific American continue to act as solicitors for patents, caveats, trade-marks, copyrights, etc., for the United States, and to obtain patents in Canada, England, France, Germany, and all other countries. Their experience is unequalled and their facilities are unsurpassed.

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If you have an invention to patent write to Munn & Co., publishers of Scientific American, 361 Broadway, New York.

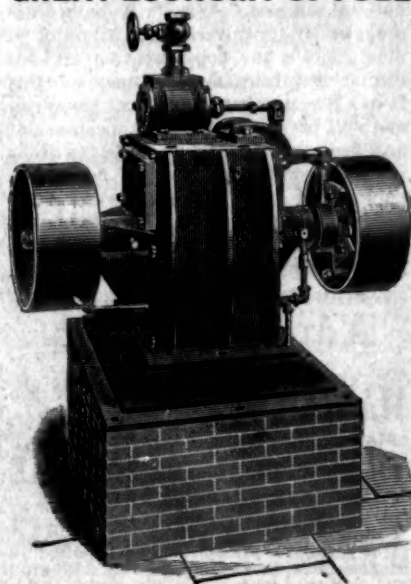
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A NEW ENGINE.

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WONDERFUL DEVELOPMENT
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NO high-priced Engineers are required. Any person can manage it. No angular push, or dead center. Friction almost entirely overcome. It is the most compact Engine ever invented. It is perfectly governed. We also warrant it to attain a higher speed and develop more power with less fuel than any Engine in use.

Manufactured at the Cedar Rapids High Speed Engine Works, of Cedar Rapids, Iowa.

Send for a Circular. Address,

44Atf HENRY RICKEL, Pres., CEDAR RAPIDS, IOWA.

Dadant's Foundation Factory, wholesale and retail. See advertisement in another column.

Nothing Succeeds Like Success.

I HAVE made a success of producing 1 Comb Honey for the past 9 years. My little pamphlet—"How I Raise Comb Honey"—briefly tells how I do it. By mail 10 cents. My Price-List of SUPPLIES, for 1888, free. Address,

51Atf GEO. E. HILTON, FREMONT, MICH.

J. FORNCROOK & CO.,

MANUFACTURERS OF THE

"BOSS" One-Piece SECTIONS,



Patented June 25, 1881.

Will furnish you, the coming season, ONE-PIECE SECTIONS as cheap as the cheapest. Write for prices. Watertown, Wis., Oct. 25, 1887.

Wooden Pails for Honey!

WE can furnish regular Wooden Water-Pails—well painted on the outside, and with 3 iron hoops and a tight-fitting wood cover, at \$5.95 per dozen. They will hold 2 1/2 lbs. of honey, and when empty, can be utilized for use as an ordinary household pail.

THOS. G. NEWMAN & SON, 923 & 925 West Madison Street, CHICAGO, ILL.

BEE-KEEPERS' GUIDE;

Or, MANUAL OF THE APIARY.

15,000 SOLD SINCE 1876.

7,000 Sold Since May, 1888.

More than 50 pages, and more than 50 fine illustrations were added in the 8th edition. The whole work has been thoroughly revised, and contains the very latest in respect to bee-keeping. It is certainly the fullest and most scientific work treating of bees in the World. Price, by mail, \$1.25. Liberal discount to dealers and to clubs.

A. J. COOK, Author and Publisher, Agricultural College, Mich.

SPECIAL DISCOUNT ON HIVES.

In order to keep our Hive-Factory running during the dull season, we will make a DISCOUNT of 10 PER CENT, on Langstroth Hives, Cases, Frames, Shipping-Crates and Bee-Feeders, received before Jan. 1, 1888.

THOS. G. NEWMAN & SON, 923 & 925 W. Madison St., - CHICAGO, ILL.

Dadant's Foundation Factory, wholesale and retail. See advertisement in another column.

If you wish to obtain the Highest Price for Honey this Season, write to Headquarters, 123 Water-street, New York,

F. G. STROHMMEYER & CO., Wholesale Honey Merchants.

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